SEQUENCE LISTING

<110> Chiang, Lillian Wei-Ming

<120> NARC10 and NARC16, Programmed Cell Death-Associated Molecules and Uses Thereof

<130> 35800/242056

<150> US 60/262,306
<151> 2001-01-16

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<212> PRT
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Gly Gln Met Ala Glu Glu Pro Gln Thr Pro Ala Glu Asn Ala Pro Lys
    50                  55                  60
Pro Lys Asn Asp Phe Ile Glu Ser Leu Pro Asn Ser Val Lys Cys Arg
65                  70                  75                  80
Val Leu Ala Leu Lys Lys Leu Gln Lys Arg Cys Asp Lys Ile Glu Ala
                85                  90                  95
Lys Phe Asp Lys Glu Phe Gln Ala Leu Glu Lys Lys Tyr Asn Asp Ile
            100                 105                 110
Tyr Lys Pro Leu Leu Ala Lys Ile Gln Glu Leu Thr Gly Glu Met Glu
        115                 120                 125
Gly Cys Ala Trp Thr Leu Glu Gly Glu Glu Glu Glu Glu Glu Glu Tyr
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Glu Asp Asp Glu Glu Glu Gly Glu Asp Glu Glu Glu Glu Glu Ala Ala
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Met Ala Asp Ser Glu Asn Gln
1 5

ggg cct gcg gag cct agc cag gcg gcg gca gcg gcg gag gca gcg gca 163
Gly Pro Ala Glu Pro Ser Gln Ala Ala Ala Ala Ala Glu Ala Ala Ala
10 15 20

gag gag gta atg gcg gaa ggc ggt gcg cag ggt gga gac tgt gac agc 211
Glu Glu Val Met Ala Glu Gly Gly Ala Gln Gly Gly Asp Cys Asp Ser
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gcg gct ggt gac cct gac agc gcg gct ggt cag atg gct gag gag ccc 259
Ala Ala Gly Asp Pro Asp Ser Ala Ala Gly Gln Met Ala Glu Glu Pro
40 45 50 55

cag acc cct gca gag aat gcc cca aag ccg aaa aat gac ttt atc gag 307
Gln Thr Pro Ala Glu Asn Ala Pro Lys Pro Lys Asn Asp Phe Ile Glu
60 65 70

agc ctg cct aat tcg gtg aaa tgc cga gtc ctg gcc ctc aaa aag ctg 355
Ser Leu Pro Asn Ser Val Lys Cys Arg Val Leu Ala Leu Lys Lys Leu
75 80 85

cag aag cga tgc gat aag ata gaa gcc aaa ttt gat aag gaa ttt cag 403
Gln Lys Arg Cys Asp Lys Ile Glu Ala Lys Phe Asp Lys Glu Phe Gln
90 95 100

gct ctg gaa aaa aag tat aat gac atc tat aag ccc cta ctc gcc aag 451
Ala Leu Glu Lys Lys Tyr Asn Asp Ile Tyr Lys Pro Leu Leu Ala Lys
105 110 115

atc caa gag ctc acc ggc gag atg gag ggg tgt gca tgg acc ttg gag 499
Ile Gln Glu Leu Thr Gly Glu Met Glu Gly Cys Ala Trp Thr Leu Glu
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ggg gag gag gag gag gaa gag gag tac gag gat gac gag gag gag ggg 547
Gly Glu Glu Glu Glu Glu Glu Glu Tyr Glu Asp Asp Glu Glu Glu Gly
140 145 150

gaa gac gag gag gag gag gag gct gcg gca gag gct gcc gcg ggg gcc 595
Glu Asp Glu Glu Glu Glu Glu Ala Ala Ala Glu Ala Ala Ala Gly Ala
155 160 165

aaa cat gac gat gcc cac gcc gag atg cct gat gac gcc aag aag taa 643
Lys His Asp Asp Ala His Ala Glu Met Pro Asp Asp Ala Lys Lys *
170 175 180

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cagaatatcg atggacttaa aaaggctcag gtttttgacc aaaatacaat gtgaatttat 763
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Asn Pro Gln Asn Ala Val Ala Leu Leu Pro Glu Asn Asp Thr Gly Glu
        35   40   45
Ser Met Leu Trp Lys Ala Thr Ile Val Leu Ser Arg Gly Val Ser Val
    50   55   60
Gln Tyr Arg Tyr Phe Lys Gly Tyr Phe Leu Glu Pro Lys Thr Ile Gly
65   70   75   80
Gly Pro Cys Gln Val Ile Val His Lys Trp Glu Thr His Leu Gln Pro
                85   90   95
Arg Ser Ile Thr Pro Leu Glu Ser Glu Ile Ile Ile Asp Asp Gly Gln
            100   105   110
Phe Gly Ile His Asn Gly Val Glu Thr Leu Asp Ser Gly Trp Leu Thr
        115   120   125
Cys Gln Thr Glu Ile Arg Leu Arg Leu His Tyr Ser Glu Lys Pro Pro
    130   135   140
Val Ser Ile Thr Lys Lys Lys Leu Lys Lys Ser Arg Phe Arg Val Lys
145   150   155   160
Leu Thr Leu Glu Gly Leu Glu Glu Asp Asp Asp Asp Arg Val Ser Pro
                165   170   175
Thr Val Leu His Lys Met Ser Asn Ser Leu Glu Ile Ser Leu Ile Ser
            180   185   190
Asp Asn Glu Phe Lys Cys Arg His Ser Gln Pro Glu Cys Gly Tyr Gly
        195   200   205
Leu Gln Pro Asp Arg Trp Thr Glu Tyr Ser Ile Gln Thr Met Glu Pro

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Asp Asn Leu Glu Leu Ile Phe Asp Phe Phe Glu Glu Asp Leu Ser Glu
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His Val Val Gln Gly Asp Ala Leu Pro Gly His Val Gly Thr Ala Cys
                245                 250                 255
Leu Leu Ser Ser Thr Ile Ala Glu Ser Gly Lys Ser Ala Gly Ile Leu
            260                 265                 270
Thr Leu Pro Ile Met Ser Arg Asn Ser Arg Lys Thr Ile Gly Lys Val
        275                 280                 285
Arg Val Asp Tyr Ile Ile Ile Lys Pro Leu Pro Gly Tyr Ser Cys Asp
    290                 295                 300
Met Lys Ser Ser Phe Ser Lys Tyr Trp Lys Pro Arg Ile Pro Leu Asp
305                 310                 315                 320
Val Gly His Arg Gly Ala Gly Asn Ser Thr Thr Thr Ala Gln Leu Ala
                325                 330                 335
Lys Val Gln Glu Asn Thr Ile Ala Ser Leu Arg Asn Ala Ala Ser His
            340                 345                 350
Gly Ala Ala Phe Val Glu Phe Asp Val His Leu Ser Lys Asp Phe Val
        355                 360                 365
Pro Val Val Tyr His Asp Leu Thr Cys Cys Leu Thr Met Lys Lys Lys
    370                 375                 380
Phe Asp Ala Asp Pro Val Glu Leu Phe Glu Ile Pro Val Lys Glu Leu
385                 390                 395                 400
Thr Phe Asp Gln Leu Gln Leu Leu Lys Leu Thr His Val Thr Ala Leu
                405                 410                 415
Lys Ser Lys Asp Arg Lys Glu Ser Val Val Gln Glu Glu Asn Ser Phe
            420                 425                 430
Ser Glu Asn Gln Pro Phe Pro Ser Leu Lys Met Val Leu Glu Ser Leu
        435                 440                 445
Pro Glu Asp Val Gly Phe Asn Ile Glu Ile Lys Trp Ile Cys Gln Gln
    450                 455                 460
Arg Asp Gly Met Trp Asp Gly Asn Leu Ser Thr Tyr Phe Asp Met Asn
465                 470                 475                 480
Leu Phe Leu Asp Ile Ile Leu Lys Thr Val Leu Glu Asn Ser Gly Lys
                485                 490                 495
Arg Arg Ile Val Phe Ser Ser Phe Asp Ala Asp Ile Cys Thr Met Val
            500                 505                 510
Arg Gln Lys Gln Asn Lys Tyr Pro Ile Leu Phe Leu Thr Gln Gly Lys
        515                 520                 525
Ser Glu Ile Tyr Pro Glu Leu Met Asp Leu Arg Ser Arg Thr Thr Pro
    530                 535                 540
Ile Ala Met Ser Phe Ala Gln Phe Glu Asn Leu Leu Gly Ile Asn Val
545                 550                 555                 560
His Thr Glu Asp Leu Leu Arg Asn Pro Ser Tyr Ile Gln Glu Ala Lys
                565                 570                 575
Ala Lys Gly Leu Val Ile Phe Cys Trp Gly Asp Asp Thr Asn Asp Pro
            580                 585                 590
Glu Asn Arg Arg Lys Leu Lys Glu Leu Gly Val Asn Gly Leu Ile Tyr
        595                 600                 605
Asp Arg Ile Tyr Asp Trp Met Pro Glu Gln Pro Asn Ile Phe Gln Val
    610                 615                 620
Glu Gln Leu Glu Arg Leu Lys Gln Glu Leu Pro Glu Leu Lys Ser Cys
625                 630                 635                 640
Leu Cys Pro Thr Val Ser Arg Phe Val Pro Ser Ser Leu Cys Gly Glu
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acatcataaa ataaatccat caga atg aca cct tct cag gtt gcc ttt gaa 171
Met Thr Pro Ser Gln Val Ala Phe Glu
1 5

ata aga gga act ctt tta cca gga gaa gtt ttt gcg ata tgt gga agc 219
Ile Arg Gly Thr Leu Leu Pro Gly Glu Val Phe Ala Ile Cys Gly Ser
10 15 20 25

tgt gat gct ttg gga aac tgg aat cct caa aat gct gtg gct ctt ctt 267
Cys Asp Ala Leu Gly Asn Trp Asn Pro Gln Asn Ala Val Ala Leu Leu
30 35 40

cca gag aat gac aca ggt gaa agc atg cta tgg aaa gca acc att gta 315
Pro Glu Asn Asp Thr Gly Glu Ser Met Leu Trp Lys Ala Thr Ile Val
45 50 55

ctc agt aga gga gta tca gtt cag tat cgc tac ttc aaa ggg tac ttt 363
Leu Ser Arg Gly Val Ser Val Gln Tyr Arg Tyr Phe Lys Gly Tyr Phe
60 65 70

tta gaa cca aag act atc ggt ggt cca tgt caa gtg ata gtt cac aag 411
Leu Glu Pro Lys Thr Ile Gly Gly Pro Cys Gln Val Ile Val His Lys
75 80 85

tgg gag act cat cta caa cca cga tca ata acc cct tta gaa agc gaa 459
Trp Glu Thr His Leu Gln Pro Arg Ser Ile Thr Pro Leu Glu Ser Glu
90 95 100 105

att att att gac gat gga caa ttt gga atc cac aat ggt gtt gaa act 507
Ile Ile Ile Asp Asp Gly Gln Phe Gly Ile His Asn Gly Val Glu Thr
110 115 120

ctg gat tct gga tgg ctg aca tgt cag act gaa ata aga tta cgt ttg 555
Leu Asp Ser Gly Trp Leu Thr Cys Gln Thr Glu Ile Arg Leu Arg Leu
125 130 135

cat tat tct gaa aaa cct cct gtg tca ata acc aag aaa aaa tta aaa 603
His Tyr Ser Glu Lys Pro Pro Val Ser Ile Thr Lys Lys Lys Leu Lys
140 145 150

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aaa tct aga ttt agg gtg aag ctg aca cta gaa ggc ctg gag gaa gat   651
Lys Ser Arg Phe Arg Val Lys Leu Thr Leu Glu Gly Leu Glu Glu Asp
    155                 160                 165

gac gat gat agg gta tct ccc act gta ctc cac aaa atg tcc aat agc   699
Asp Asp Asp Arg Val Ser Pro Thr Val Leu His Lys Met Ser Asn Ser
170                 175                 180                 185

ttg gag ata tcc tta ata agc gac aat gag ttc aag tgc agg cat tca   747
Leu Glu Ile Ser Leu Ile Ser Asp Asn Glu Phe Lys Cys Arg His Ser
                190                 195                 200

cag ccg gag tgt ggt tat ggc ttg cag cct gat cgt tgg aca gag tac   795
Gln Pro Glu Cys Gly Tyr Gly Leu Gln Pro Asp Arg Trp Thr Glu Tyr
            205                 210                 215

agc ata cag acg atg gaa cca gat aac ctg gaa cta atc ttt gat ttt   843
Ser Ile Gln Thr Met Glu Pro Asp Asn Leu Glu Leu Ile Phe Asp Phe
        220                 225                 230

ttc gaa gaa gat ctc agt gag cac gta gtt cag ggt gat gcc ctt cct   891
Phe Glu Glu Asp Leu Ser Glu His Val Val Gln Gly Asp Ala Leu Pro
    235                 240                 245

gga cat gtg ggt aca gct tgt ctc tta tca tcc acc att gct gag agt   939
Gly His Val Gly Thr Ala Cys Leu Leu Ser Ser Thr Ile Ala Glu Ser
250                 255                 260                 265

gga aag agt gct gga att ctt act ctt ccc atc atg agc aga aat tcc   987
Gly Lys Ser Ala Gly Ile Leu Thr Leu Pro Ile Met Ser Arg Asn Ser
                270                 275                 280

cgg aaa aca ata ggc aaa gtg aga gtt gac tat ata att att aag cca   1035
Arg Lys Thr Ile Gly Lys Val Arg Val Asp Tyr Ile Ile Ile Lys Pro
            285                 290                 295

tta cca gga tac agt tgt gac atg aaa tct tca ttt tcc aag tat tgg   1083
Leu Pro Gly Tyr Ser Cys Asp Met Lys Ser Ser Phe Ser Lys Tyr Trp
        300                 305                 310

aag cca aga ata cca ttg gat gtt ggc cat cga ggt gca gga aac tct   1131
Lys Pro Arg Ile Pro Leu Asp Val Gly His Arg Gly Ala Gly Asn Ser
    315                 320                 325

aca aca act gcc cag ctg gct aaa gtt caa gaa aat act att gct tct   1179
Thr Thr Thr Ala Gln Leu Ala Lys Val Gln Glu Asn Thr Ile Ala Ser
330                 335                 340                 345

tta aga aat gct gct agt cat ggt gca gcc ttt gta gaa ttt gac gta   1227
Leu Arg Asn Ala Ala Ser His Gly Ala Ala Phe Val Glu Phe Asp Val
                350                 355                 360

cac ctt tca aag gac ttt gtg ccc gtg gta tat cat gat ctt acc tgt   1275
His Leu Ser Lys Asp Phe Val Pro Val Val Tyr His Asp Leu Thr Cys
            365                 370                 375
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tgt ttg act atg aaa aag aaa ttt gat gct gat cca gtt gaa tta ttt   1323
Cys Leu Thr Met Lys Lys Lys Phe Asp Ala Asp Pro Val Glu Leu Phe
        380                 385                 390

gaa att cca gta aaa gaa tta aca ttt gac caa ctc cag ttg tta aag   1371
Glu Ile Pro Val Lys Glu Leu Thr Phe Asp Gln Leu Gln Leu Leu Lys
    395                 400                 405

ctc act cat gtg act gca ctg aaa tct aag gat cgg aaa gaa tct gtg   1419
Leu Thr His Val Thr Ala Leu Lys Ser Lys Asp Arg Lys Glu Ser Val
410                 415                 420                 425

gtt cag gag gaa aat tcc ttt tca gaa aat cag cca ttt cct tct ctt   1467
Val Gln Glu Glu Asn Ser Phe Ser Glu Asn Gln Pro Phe Pro Ser Leu
                430                 435                 440

aag atg gtt tta gag tct ttg cca gaa gat gta ggg ttt aac att gaa   1515
Lys Met Val Leu Glu Ser Leu Pro Glu Asp Val Gly Phe Asn Ile Glu
            445                 450                 455

ata aaa tgg atc tgc cag caa agg gat gga atg tgg gat ggt aac tta   1563
Ile Lys Trp Ile Cys Gln Gln Arg Asp Gly Met Trp Asp Gly Asn Leu
        460                 465                 470

tca aca tat ttt gac atg aat ctg ttt ttg gat ata att tta aaa act   1611
Ser Thr Tyr Phe Asp Met Asn Leu Phe Leu Asp Ile Ile Leu Lys Thr
    475                 480                 485

gtt tta gaa aat tct ggg aag agg aga ata gtg ttt tct tca ttt gat   1659
Val Leu Glu Asn Ser Gly Lys Arg Arg Ile Val Phe Ser Ser Phe Asp
490                 495                 500                 505

gca gat att tgc aca atg gtt cgg caa aag cag aac aaa tat ccg ata   1707
Ala Asp Ile Cys Thr Met Val Arg Gln Lys Gln Asn Lys Tyr Pro Ile
                510                 515                 520

cta ttt tta act caa gga aaa tct gag att tat cct gaa ctc atg gac   1755
Leu Phe Leu Thr Gln Gly Lys Ser Glu Ile Tyr Pro Glu Leu Met Asp
            525                 530                 535

ctc aga tct cgg aca acc ccc att gca atg agc ttt gca cag ttt gaa   1803
Leu Arg Ser Arg Thr Thr Pro Ile Ala Met Ser Phe Ala Gln Phe Glu
        540                 545                 550

aat cta ctg ggg ata aat gta cat act gaa gac ttg ctc aga aac cca   1851
Asn Leu Leu Gly Ile Asn Val His Thr Glu Asp Leu Leu Arg Asn Pro
    555                 560                 565

tcc tat att caa gag gca aaa gct aag gga cta gtc ata ttc tgc tgg   1899
Ser Tyr Ile Gln Glu Ala Lys Ala Lys Gly Leu Val Ile Phe Cys Trp
570                 575                 580                 585

ggt gat gat acc aat gat cct gaa aac aga agg aaa ttg aag gaa ctt   1947
Gly Asp Asp Thr Asn Asp Pro Glu Asn Arg Arg Lys Leu Lys Glu Leu
                590                 595                 600

gga gtt aat ggt cta att tat gat agg ata tat gat tgg atg cct gaa   1995
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Gly Val Asn Gly Leu Ile Tyr Asp Arg Ile Tyr Asp Trp Met Pro Glu
            605                 610                 615

caa cca aat ata ttc caa gtg gag caa ttg gaa cgc ctg aag cag gaa   2043
Gln Pro Asn Ile Phe Gln Val Glu Gln Leu Glu Arg Leu Lys Gln Glu
        620                 625                 630

ttg cca gag ctt aag agc tgt ttg tgt ccc act gtt agc cgc ttt gtt   2091
Leu Pro Glu Leu Lys Ser Cys Leu Cys Pro Thr Val Ser Arg Phe Val
    635                 640                 645

ccc tca tct ttg tgt ggg gag tct gat atc cat gtg gat gcc aac ggc   2139
Pro Ser Ser Leu Cys Gly Glu Ser Asp Ile His Val Asp Ala Asn Gly
650                 655                 660                 665

att gat aac gtg gag aat gct tag tttttattgc acagaggtca ttttgggggc  2193
Ile Asp Asn Val Glu Asn Ala  *
                670

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        35                  40                  45
Pro His Thr Pro Ser Ser Tyr Ile Glu Thr Leu Pro Lys Ala Val Lys
    50                  55                  60
Arg Arg Ile Asn Ala Leu Lys Gln Leu Gln Val Arg Cys Ala His Ile
65                  70                  75                  80
Glu Ala Lys Phe Tyr Glu Glu Val His Asp Leu Glu Arg Lys Tyr Ala
                85                  90                  95
Ala Leu Tyr Gln Pro Leu Phe Asp Lys Arg Arg Glu Phe Ile Thr Gly
            100                 105                 110
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Asp Val Glu Pro Thr Asp Ala Glu Ser Glu Trp His Ser Glu Asn Glu
115 120 125
Glu Glu Glu Lys Leu Ala Gly Asp Met Lys Ser Lys Val Val Val Thr
130 135 140
Glu Lys Ala Ala Ala Thr Ala Glu Glu Pro Asp Pro Lys Gly Ile Pro
145 150 155 160
Glu Phe Trp Phe Thr Ile Phe Arg Asn Val Asp Met Leu Ser Glu Leu
165 170 175
Val Gln Glu Tyr Asp Glu Pro Ile Leu Lys His Leu Gln Asp Ile Lys
180 185 190
Val Lys Phe Ser Asp Pro Gly Gln Pro Met Ser Phe Val Leu Glu Phe
195 200 205
His Phe Glu Pro Asn Asp Tyr Phe Thr Asn Ser Val Leu Thr Lys Thr
210 215 220
Tyr Lys Met Lys Ser Glu Pro Asp Lys Ala Asp Pro Phe Ser Phe Glu
225 230 235 240
Gly Pro Glu Ile Val Asp Cys Asp Gly Cys Thr Ile Asp Trp Lys Lys
245 250 255
Gly Lys Asn Val Thr Val Lys Thr Ile Lys Lys Lys Gln Lys His Lys
260 265 270
Gly Arg Gly Thr Val Arg Thr Ile Thr Lys Gln Val Pro Asn Glu Ser
275 280 285
Phe Phe Asn Phe Phe Asn Pro Leu Lys Ala Ser Gly Asp Gly Glu Ser
290 295 300
Leu Asp Glu Asp Ser Glu Phe Thr Leu Ala Ser Asp Phe Glu Ile Gly
305 310 315 320
His Phe Phe Arg Glu Arg Ile Val Pro Arg Ala Val Leu Tyr Phe Thr
325 330 335
Gly Glu Ala Ile Glu Asp Asp Asp Asn Phe Glu Glu Gly Glu Glu Gly
340 345 350
Glu Glu Glu Glu Leu Glu Gly Asp Glu Glu Gly Glu Asp Glu Asp Asp
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Ala Glu Ile Asn Pro Lys Val
370 375

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35 40 45
Ser His Thr Pro Ser Ser Tyr Ile Glu Thr Leu Pro Lys Ala Val Lys
50 55 60
Arg Arg Ile Asn Ala Leu Lys Gln Leu Gln Val Arg Cys Ala His Ile
65 70 75 80
Glu Ala Lys Phe Tyr Glu Glu Val His Asp Leu Glu Arg Lys Tyr Ala
85 90 95
Ala Leu Tyr Gln Pro Leu Phe Asp Lys Arg Arg Glu Phe Ile Thr Gly
100 105 110
Asp Val Glu Pro Thr Asp Ala Glu Ser Ala Trp His Ser Glu Asn Glu

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        115                 120                 125
Glu Glu Asp Lys Leu Ala Gly Asp Met Lys Asn Lys Val Val Ile Ala
    130                 135                 140
Glu Lys Glu Ala Ala Thr Val Glu Glu Leu Asn Pro Lys Gly Ile Pro
145                 150                 155                 160
Glu Phe Trp Phe Thr Ile Phe Arg Asn Val Asp Met Leu Ser Glu Leu
                165                 170                 175
Val Gln Glu Tyr Asp Glu Pro Ile Leu Lys His Leu Gln Asp Ile Lys
            180                 185                 190
Val Lys Phe Ser Asp Pro Gly Gln Pro Met Ser Phe Val Leu Glu Phe
        195                 200                 205
His Phe Glu Pro Asn Asp Tyr Phe Thr Asn Pro Val Leu Thr Lys Thr
    210                 215                 220
Tyr Lys Met Lys Ser Glu Pro Asp Lys Ala Asp Pro Phe Ser Phe Glu
225                 230                 235                 240
Gly Pro Glu Ile Val Asp Cys Asp Gly Cys Thr Ile Asp Trp Lys Lys
                245                 250                 255
Gly Lys Asn Val Thr Val Lys Thr Ile Lys Lys Lys Gln Lys His Lys
            260                 265                 270
Gly Arg Gly Thr Val Arg Thr Ile Thr Lys Gln Val Pro Asn Glu Ser
        275                 280                 285
Phe Phe Asn Phe Phe Ser Pro Leu Lys Ala Ser Gly Asp Gly Glu Ser
    290                 295                 300
Leu Asp Glu Asp Ser Glu Phe Thr Leu Ala Ser Asp Phe Glu Ile Gly
305                 310                 315                 320
His Phe Phe Arg Glu Arg Ile Val Pro Arg Ala Val Leu Tyr Phe Thr
                325                 330                 335
Gly Glu Ala Ile Glu Asp Asp Asp Asn Phe Glu Glu Gly Glu Glu Gly
            340                 345                 350
Glu Glu Glu Glu Leu Glu Gly Asp Glu Glu Gly Glu Asp Glu Asp Asp
        355                 360                 365
Ala Asp Val Asn Pro Lys Val
    370                 375
```

<210> 7
<211> 460
<212> PRT
<213> Homo sapiens

```
<400> 7
Met Ala Glu Ser Glu Asn Arg Lys Glu Leu Ser Glu Ser Ser Gln Glu
 1               5                  10                  15
Glu Ala Gly Asn Gln Ile Met Val Glu Gly Leu Gly Glu His Leu Glu
            20                  25                  30
Arg Gly Glu Asp Ala Ala Ala Gly Leu Gly Asp Asp Gly Lys Cys Gly
        35                  40                  45
Glu Glu Ala Ala Ala Gly Leu Gly Glu Glu Gly Glu Asn Gly Glu Asp
    50                  55                  60
Thr Ala Ala Gly Ser Gly Glu Asp Gly Lys Lys Gly Gly Asp Thr Asp
65                  70                  75                  80
Glu Asp Ser Glu Ala Asp Arg Pro Lys Gly Leu Ile Gly Tyr Val Leu
                85                  90                  95
Asp Thr Asp Phe Val Glu Ser Leu Pro Val Lys Val Lys Tyr Arg Val
            100                 105                 110
Leu Ala Leu Lys Lys Leu Gln Thr Arg Ala Ala Asn Leu Glu Ser Lys
        115                 120                 125
```

Phe Leu Arg Glu Phe His Asp Ile Glu Arg Lys Phe Ala Glu Met Tyr
    130   135   140
Gln Pro Leu Leu Glu Lys Arg Arg Gln Ile Ile Asn Ala Ile Tyr Glu
145   150   155   160
Pro Thr Glu Glu Glu Cys Glu Tyr Lys Ser Asp Ser Glu Asp Cys Asp
                165   170   175
Asp Glu Glu Met Cys His Glu Glu Met Tyr Gly Asn Glu Glu Gly Met
            180   185   190
Val His Glu Tyr Val Asp Glu Asp Asp Gly Tyr Glu Asp Tyr Tyr Tyr
        195   200   205
Asp Tyr Ala Val Glu Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Ile
    210   215   220
Glu Ala Thr Gly Glu Glu Asn Lys Glu Glu Glu Asp Pro Lys Gly Ile
225   230   235   240
Pro Asp Phe Trp Leu Thr Val Leu Lys Asn Val Asp Thr Leu Thr Pro
                245   250   255
Leu Ile Lys Lys Tyr Asp Glu Pro Ile Leu Lys Leu Leu Thr Asp Ile
            260   265   270
Lys Val Lys Leu Ser Asp Pro Gly Glu Pro Leu Ser Phe Thr Leu Glu
        275   280   285
Phe His Phe Lys Pro Asn Glu Tyr Phe Lys Asn Glu Leu Leu Thr Lys
    290   295   300
Thr Tyr Val Leu Lys Ser Lys Leu Ala Tyr Tyr Asp Pro His Pro Tyr
305   310   315   320
Arg Gly Thr Ala Ile Glu Tyr Ser Thr Gly Cys Glu Ile Asp Trp Asn
                325   330   335
Glu Gly Lys Asn Val Thr Leu Lys Thr Ile Lys Lys Lys Gln Lys His
            340   345   350
Arg Ile Trp Gly Thr Ile Arg Thr Val Thr Glu Asp Phe Pro Lys Asp
        355   360   365
Ser Phe Phe Asn Phe Phe Ser Pro His Gly Ile Thr Ser Asn Gly Arg
    370   375   380
Asp Gly Asn Asp Asp Phe Leu Leu Gly His Asn Leu Arg Thr Tyr Ile
385   390   395   400
Ile Pro Arg Ser Val Leu Phe Phe Ser Gly Asp Ala Leu Glu Ser Gln
                405   410   415
Gln Glu Gly Val Val Arg Glu Val Asn Asp Ala Ile Tyr Asp Lys Ile
            420   425   430
Ile Tyr Asp Asn Trp Met Ala Ala Ile Glu Glu Val Lys Ala Cys Cys
        435   440   445
Lys Asn Leu Glu Ala Leu Val Glu Asp Ile Asp Arg
    450   455   460

<210> 8
<211> 460
<212> PRT
<213> Mus musculus

<400> 8
Met Ala Glu Ser Val Asp His Lys Glu Leu Ser Glu Ser Asn Gln Glu
1   5   10   15
Glu Leu Gly Ser Gln Val Met Ala Glu Gly Pro Gly Glu Ser Gln Asp
            20   25   30
Arg Ser Glu Gly Val Ser Ile Glu Pro Gly Asp Gly Gly Gln His Gly
        35   40   45
Glu Glu Thr Val Ala Ala Gly Val Gly Glu Glu Gly Lys Gly Glu Glu

```
    50                  55                  60
Ala Ala Ala Gly Ser Gly Glu Asp Ala Gly Lys Cys Gly Gly Thr Asp
65                  70                  75                  80
Glu Asp Ser Asp Ser Asp Arg Pro Lys Gly Leu Ile Gly Tyr Leu Leu
                85                  90                  95
Asp Thr Asp Phe Val Glu Ser Leu Pro Val Lys Val Lys Cys Arg Val
            100                 105                 110
Leu Ala Leu Lys Lys Leu Gln Thr Arg Ala Ala His Leu Glu Ser Lys
        115                 120                 125
Phe Leu Arg Glu Phe His Asp Ile Glu Arg Lys Phe Ala Glu Met Tyr
    130                 135                 140
Gln Pro Leu Leu Glu Lys Arg Arg Gln Ile Ile Asn Ala Val Tyr Glu
145                 150                 155                 160
Pro Thr Glu Glu Glu Cys Glu Tyr Lys Ser Asp Cys Glu Asp Tyr Phe
                165                 170                 175
Glu Glu Glu Met Asp Glu Glu Glu Glu Thr Asn Gly Asn Glu Asp Gly
            180                 185                 190
Met Val His Glu Tyr Val Asp Glu Asp Asp Gly Tyr Glu Asp Cys Tyr
        195                 200                 205
Tyr Asp Tyr Asp Asp Glu Glu Glu Glu Glu Glu Glu Asp Asp Ser Ala
    210                 215                 220
Gly Ala Thr Gly Gly Glu Glu Val Asn Glu Glu Asp Pro Lys Gly Ile
225                 230                 235                 240
Pro Asp Phe Trp Leu Thr Val Leu Lys Asn Val Glu Ala Leu Thr Pro
                245                 250                 255
Met Ile Lys Lys Tyr Asp Glu Pro Ile Leu Lys Leu Leu Thr Asp Ile
            260                 265                 270
Lys Val Lys Leu Ser Asp Pro Gly Glu Pro Leu Ser Phe Thr Leu Glu
        275                 280                 285
Phe His Phe Lys Pro Asn Glu Tyr Phe Lys Asn Glu Leu Leu Thr Lys
    290                 295                 300
Thr Tyr Val Leu Lys Ser Lys Leu Ala Cys Tyr Asp Pro His Pro Tyr
305                 310                 315                 320
Arg Gly Thr Ala Ile Glu Tyr Ala Thr Gly Cys Asp Ile Asp Trp Asn
                325                 330                 335
Glu Gly Lys Asn Val Thr Leu Arg Thr Ile Lys Lys Lys Gln Arg His
            340                 345                 350
Arg Val Trp Gly Thr Val Arg Thr Val Thr Glu Asp Phe Pro Lys Asp
        355                 360                 365
Ser Phe Phe Asn Phe Phe Ser Pro His Gly Ile Ser Leu Asn Gly Gly
    370                 375                 380
Val Glu Asn Asp Asp Phe Leu Leu Gly His Asn Leu Arg Thr Tyr Ile
385                 390                 395                 400
Ile Pro Arg Ser Val Leu Phe Phe Ser Gly Asp Ala Leu Glu Ser Gln
                405                 410                 415
Gln Glu Gly Val Val Arg Glu Val Asn Asp Glu Ile Tyr Asp Lys Ile
            420                 425                 430
Ile Tyr Asp Asp Trp Met Ala Ala Ile Glu Glu Val Lys Ala Cys Cys
        435                 440                 445
Lys Asn Leu Glu Ala Leu Val Glu Asp Ile Asp Arg
    450                 455                 460
```

<210> 9
<211> 358
<212> PRT
<213> Glycine max

```
<400> 9
Met Thr Asn Asp Asn Ile Ala Val Thr Asp Leu Thr Ser Ala Leu Asn
 1               5                  10                  15
Glu Glu Asn Arg Ala Asp Leu Val Asn Ala Leu Lys Ser Lys Ile Gln
            20                  25                  30
Ser Leu Ala Gly Ala His Ser Asp Val Leu Glu Thr Leu Ser Pro Asn
        35                  40                  45
Val Arg Lys Arg Val Glu Ser Leu Arg Glu Ile Gln Gly Lys His Asp
    50                  55                  60
Glu Leu Glu Ala Asp Phe Leu Lys Glu Arg Glu Ala Leu Glu Ala Lys
65                  70                  75                  80
Tyr Gln Lys Leu Tyr Gln Pro Leu Tyr Thr Lys Arg Tyr Glu Ile Val
                85                  90                  95
Asn Gly Val Thr Glu Val Glu Gly Ala Ala Asn Glu Ser Thr Asp Glu
            100                 105                 110
Ser Glu Glu Asn Lys Glu Lys Gly Val Pro Ser Phe Trp Leu Asn Ala
        115                 120                 125
Met Glu Asn Asn Asp Val Leu Ala Glu Glu Ile Ser Glu Arg Asp Glu
    130                 135                 140
Gly Ala Leu Lys Phe Leu Lys Asp Ile Lys Trp Ser Arg Ile Glu Asn
145                 150                 155                 160
Pro Lys Gly Phe Lys Leu Asp Phe Phe Phe Asp Thr Asn Pro Tyr Phe
                165                 170                 175
Ser Asn Thr Val Leu Thr Lys Thr Tyr His Met Ile Asp Glu Asp Glu
            180                 185                 190
Pro Ile Leu Glu Lys Ala Ile Gly Thr Glu Ile Glu Trp Tyr Pro Gly
        195                 200                 205
Lys Cys Leu Thr Gln Lys Val Leu Lys Lys Lys Pro Lys Lys Gly Ser
    210                 215                 220
Lys Asn Ala Lys Pro Ile Thr Lys Thr Glu Ser Cys Glu Ser Phe Phe
225                 230                 235                 240
Asn Phe Phe Lys Pro Pro Glu Val Pro Glu Asp Asp Ala Asp Ile Asp
                245                 250                 255
Glu Asp Leu Ala Glu Glu Leu Gln Asn Gln Met Glu Gln Asp Tyr Asp
            260                 265                 270
Ile Gly Ser Thr Leu Arg Asp Lys Ile Ile Pro His Ala Val Ser Trp
        275                 280                 285
Phe Thr Gly Glu Ala Ala Gln Gly Asp Glu Phe Glu Asp Leu Glu Asp
    290                 295                 300
Asp Glu Asp Glu Glu Glu Asp Glu Asp Glu Asp Glu Asp Glu Glu Asp
305                 310                 315                 320
Asp Glu Asp Glu Asp Asp Glu Glu Glu Asp Asp Thr Lys Thr Lys Lys
                325                 330                 335
Lys Lys Ser Gly Lys Ala Gln Ala Gly Asp Gly Asp Gly Glu Arg Pro
            340                 345                 350
Pro Glu Cys Lys Gln Gln
        355


<210> 10
<211> 625
<212> PRT
<213> Rattus norvegicus

<400> 10
Met Thr Pro Ser Gln Val Thr Phe Glu Ile Arg Gly Thr Leu Leu Pro
```

```
 1               5                  10                  15
Gly Glu Val Phe Ala Met Cys Gly Asn Cys Asp Ala Leu Gly Asn Trp
            20                  25                  30
Ser Pro Gln Asn Ala Val Pro Leu Thr Glu Ser Glu Thr Gly Glu Ser
        35                  40                  45
Val Trp Lys Ala Val Ile Val Leu Ser Arg Gly Met Ser Val Lys Tyr
    50                  55                  60
Arg Tyr Phe Arg Gly Cys Phe Leu Glu Pro Lys Thr Ile Gly Gly Pro
65                  70                  75                  80
Cys Gln Val Ile Val His Lys Trp Glu Thr His Leu Gln Pro Arg Ser
                85                  90                  95
Ile Thr Pro Leu Glu Asn Glu Ile Ile Ile Asp Asp Gly Gln Phe Gly
            100                 105                 110
Ile His Asn Gly Val Glu Thr Leu Asp Ser Gly Trp Leu Thr Cys Gln
        115                 120                 125
Thr Glu Ile Arg Leu Arg Leu His Phe Ser Glu Lys Pro Pro Val Ser
    130                 135                 140
Ile Thr Lys Lys Lys Phe Lys Lys Ser Arg Phe Arg Val Lys Leu Thr
145                 150                 155                 160
Leu Glu Gly Leu Glu Glu Asp Asp Asp Asp Asp Asp Lys Ala Ser Pro
                165                 170                 175
Thr Val Leu His Lys Met Ser Asn Ser Leu Glu Ile Ser Leu Ile Ser
            180                 185                 190
Asp Asn Glu Phe Lys Cys Arg His Ser Gln Pro Glu Cys Gly Tyr Gly
        195                 200                 205
Leu Gln Pro Asp Arg Trp Thr Glu Tyr Ser Ile Gln Thr Met Glu Pro
    210                 215                 220
Asp Asn Leu Glu Leu Ile Phe Asp Phe Phe Glu Glu Asp Leu Ser Glu
225                 230                 235                 240
His Val Val Gln Gly Asp Val Leu Pro Gly His Val Gly Thr Ala Cys
                245                 250                 255
Leu Leu Ser Ser Thr Ile Ala Glu Ser Glu Arg Ser Ala Gly Ile Leu
            260                 265                 270
Thr Leu Pro Ile Met Ser Arg Ser Ser Arg Lys Thr Ile Gly Lys Val
        275                 280                 285
Arg Val Asp Phe Ile Ile Ile Lys Pro Leu Pro Gly Tyr Ser Cys Ser
    290                 295                 300
Met Gln Ser Ser Phe Ser Lys Tyr Trp Lys Pro Arg Ile Pro Leu Asp
305                 310                 315                 320
Val Gly His Arg Gly Ala Gly Asn Ser Thr Thr Thr Ala Lys Leu Ala
                325                 330                 335
Lys Val Gln Glu Asn Thr Ile Ala Ser Leu Arg Asn Ala Ala Ser His
            340                 345                 350
Gly Ala Ala Phe Val Glu Phe Asp Val His Leu Ser Lys Asp Leu Val
        355                 360                 365
Pro Val Val Tyr His Asp Leu Thr Cys Cys Leu Thr Met Lys Arg Lys
    370                 375                 380
Tyr Glu Ala Asp Pro Val Glu Leu Phe Glu Ile Pro Val Lys Glu Leu
385                 390                 395                 400
Thr Phe Asp Gln Leu Gln Leu Leu Lys Leu Ser His Val Thr Ala Leu
                405                 410                 415
Lys Thr Lys Asp Gln Lys Gln Cys Met Ala Glu Glu Glu Asn Ser Phe
            420                 425                 430
Ser Glu Asn Gln Pro Phe Pro Ser Leu Lys Met Val Leu Glu Ser Leu
        435                 440                 445
Pro Glu Asn Val Gly Phe Asn Ile Glu Ile Lys Trp Ile Cys Gln His
    450                 455                 460
```

Arg Asp Gly Val Trp Asp Gly Asn Leu Ser Thr Tyr Phe Asp Met Asn
465 470 475 480
Ala Phe Leu Asp Ile Ile Leu Lys Thr Val Leu Glu Asn Ser Gly Lys
485 490 495
Arg Arg Ile Val Phe Ser Ser Phe Asp Ala Asp Ile Cys Thr Met Val
500 505 510
Arg Gln Lys Gln Asn Lys Tyr Pro Ile Leu Phe Leu Thr Gln Gly Lys
515 520 525
Ser Asp Ile Tyr Pro Glu Leu Met Asp Leu Arg Ser Arg Thr Thr Pro
530 535 540
Ile Ala Met Ser Phe Ala Gln Phe Glu Asn Ile Leu Gly Ile Asn Ala
545 550 555 560
His Thr Glu Asp Leu Leu Arg Asn Pro Ser Tyr Val Gln Glu Ala Lys
565 570 575
Asp Lys Gly Leu Val Ile Phe Cys Trp Gly Asp Asp Thr Asn Asp Pro
580 585 590
Glu Asn Arg Arg Lys Leu Lys Glu Phe Gly Val Asn Gly Leu Ile Tyr
595 600 605
Asp Arg Tyr Leu Phe Phe Val Lys Asn Leu His Gly Ile Val Gln Thr
610 615 620
Val
625

<210> 11
<211> 243
<212> PRT
<213> Bacillus subtilis

<400> 11
Leu Tyr Ile Ile Ala His Arg Gly Ala Ser Gly Tyr Ala Pro Glu Asn
1 5 10 15
Thr Ile Ala Ala Phe Asp Leu Ala Val Lys Met Asn Ala Asp Met Ile
20 25 30
Glu Leu Asp Val Gln Leu Thr Lys Asp Arg Gln Ile Val Val Ile His
35 40 45
Asp Asp Arg Val Asp Arg Thr Thr Asn Gly Ser Gly Phe Val Lys Asp
50 55 60
Phe Thr Leu Glu Glu Leu Gln Lys Leu Asp Ala Gly Ser Trp Tyr Gly
65 70 75 80
Pro Ala Phe Gln Gly Glu Arg Ile Pro Thr Leu Glu Ala Val Leu Lys
85 90 95
Arg Tyr His Lys Lys Ile Gly Leu Leu Ile Glu Leu Lys Gly His Pro
100 105 110
Ser Gln Val Gly Ile Glu Glu Glu Val Gly Gln Leu Leu Gly Gln Phe
115 120 125
Ser Phe Ser Ile Asn Asn Ile Val Gln Ser Phe Gln Phe Arg Ser Val
130 135 140
Gln Arg Phe Arg Glu Leu Tyr Pro Ser Ile Pro Thr Ala Val Ile Thr
145 150 155 160
Arg Pro Asn Phe Gly Met Leu Ser Arg Asn Gln Met Lys Ala Phe Arg
165 170 175
Ser Phe Ala Asn Tyr Val Asn Ile Lys His Thr Arg Leu Asn Arg Leu
180 185 190
Met Ile Gly Ser Ile Asn Lys Asn Gly Leu Asn Ile Phe Ala Trp Thr
195 200 205
Val Asn Asn Gln Lys Thr Ala Ala Lys Leu Gln Ala Met Gly Val Asp

210 215 220
Gly Ile Val Thr Asp Tyr Pro Asp Phe Ile Ile Lys Asp Gly Lys His
225 230 235 240
Glu Asn Ile

<210> 12
<211> 358
<212> PRT
<213> Escherichia coli K12

<400> 12
Met Lys Leu Thr Leu Lys Asn Leu Ser Met Ala Ile Met Met Ser Thr
1 5 10 15
Ile Val Met Gly Ser Ser Ala Met Ala Ala Asp Ser Asn Glu Lys Ile
20 25 30
Val Ile Ala His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu
35 40 45
Pro Ala Lys Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln
50 55 60
Asp Leu Val Met Thr Lys Asp Asp Asn Leu Val Val Leu His Asp His
65 70 75 80
Tyr Leu Asp Arg Val Thr Asp Val Ala Asp Arg Phe Pro Asp Arg Ala
85 90 95
Arg Lys Asp Gly Arg Tyr Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile
100 105 110
Lys Ser Leu Lys Phe Thr Glu Gly Phe Asp Ile Glu Asn Gly Lys Lys
115 120 125
Val Gln Thr Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg
130 135 140
Val His Thr Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His
145 150 155 160
Ser Thr Gly Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp
165 170 175
Phe His His Gln Glu Gly Lys Asp Ile Ala Ala Lys Thr Leu Glu Val
180 185 190
Leu Lys Lys Tyr Gly Tyr Thr Gly Lys Asp Asp Lys Val Tyr Leu Gln
195 200 205
Cys Phe Asp Ala Asp Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro
210 215 220
Lys Met Gly Met Glu Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp
225 230 235 240
Trp Asn Glu Thr Gln Gln Lys Gln Pro Asp Gly Ser Trp Val Asn Tyr
245 250 255
Asn Tyr Asp Trp Met Phe Lys Pro Gly Ala Met Lys Gln Val Ala Glu
260 265 270
Tyr Ala Asp Gly Ile Gly Pro Asp Tyr His Met Leu Ile Glu Glu Thr
275 280 285
Ser Gln Pro Gly Asn Ile Lys Leu Thr Gly Met Val Gln Asp Ala Gln
290 295 300
Gln Asn Lys Leu Val Val His Pro Tyr Thr Val Arg Ser Asp Lys Leu
305 310 315 320
Pro Glu Tyr Thr Pro Asp Val Asn Gln Leu Tyr Asp Ala Leu Tyr Asn
325 330 335
Lys Ala Gly Val Asn Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val
340 345 350

Lys Phe Leu Asn Lys Glu
355

<210> 13
<211> 247
<212> PRT
<213> Escherichia coli K12

<400> 13
Met Ser Asn Trp Pro Tyr Pro Arg Ile Val Ala His Arg Gly Gly Gly
1 5 10 15
Lys Leu Ala Pro Glu Asn Thr Leu Ala Ser Ile Asp Val Gly Ala Lys
20 25 30
Tyr Gly His Lys Met Ile Glu Phe Asp Ala Lys Leu Ser Lys Asp Gly
35 40 45
Glu Ile Phe Leu Leu His Asp Asp Asn Leu Glu Arg Thr Ser Asn Gly
50 55 60
Trp Gly Val Ala Gly Glu Leu Asn Trp Gln Asp Leu Leu Arg Val Asp
65 70 75 80
Ala Gly Ser Trp Tyr Ser Lys Met Phe Lys Gly Glu Pro Leu Pro Leu
85 90 95
Leu Ser Gln Val Ala Glu Arg Cys Arg Glu His Gly Met Met Ala Asn
100 105 110
Ile Glu Ile Lys Pro Thr Thr Gly Thr Gly Pro Leu Thr Gly Lys Met
115 120 125
Val Ala Leu Ala Ala Arg Glu Leu Trp Ala Gly Met Thr Pro Pro Leu
130 135 140
Leu Ser Ser Phe Glu Ile Asp Ala Leu Glu Ala Ala Gln Gln Ala Ala
145 150 155 160
Pro Glu Leu Pro Arg Gly Leu Leu Leu Asp Glu Trp Arg Asp Asp Trp
165 170 175
Arg Glu Leu Thr Ala Arg Leu Gly Cys Val Ser Ile His Leu Asn His
180 185 190
Lys Leu Leu Asn Lys Ala Arg Val Met Gln Leu Lys Asp Ala Gly Leu
195 200 205
Arg Ile Leu Val Tyr Thr Val Asn Lys Pro Gln Arg Ala Ala Glu Leu
210 215 220
Leu Arg Trp Gly Val Asp Cys Ile Cys Thr Asp Ala Ile Asp Val Ile
225 230 235 240
Gly Pro Asn Phe Thr Ala Gln
245

<210> 14
<211> 256
<212> PRT
<213> Mycobacterium tuberculosis

<400> 14
Met Glu Phe Leu Arg His Gly Gly Arg Ile Ala Met Ala His Arg Gly
1 5 10 15
Phe Thr Ser Phe Arg Leu Pro Met Asn Ser Met Gly Ala Phe Gln Glu
20 25 30
Ala Ala Lys Leu Gly Phe Arg Tyr Ile Glu Thr Asp Val Arg Ala Thr
35 40 45
Arg Asp Gly Val Ala Val Ile Leu His Asp Arg Arg Leu Ala Pro Gly

    50   55   60
Val Gly Leu Ser Gly Ala Val Asp Arg Leu Asp Trp Arg Asp Val Arg
65   70   75   80
Lys Ala Gln Leu Gly Ala Gly Gln Ser Ile Pro Thr Leu Glu Asp Leu
                85   90   95
Leu Thr Ala Leu Pro Asp Met Arg Val Asn Ile Asp Ile Lys Ala Ala
            100   105   110
Ser Ala Ile Glu Pro Thr Val Asn Val Ile Glu Arg Cys Asn Ala His
        115   120   125
Asn Arg Val Leu Ile Gly Ser Phe Ser Glu Arg Arg Arg Arg Arg Ala
    130   135   140
Leu Arg Leu Leu Thr Lys Arg Val Ala Ser Ser Ala Gly Thr Gly Ala
145   150   155   160
Leu Leu Ala Trp Leu Thr Ala Arg Pro Leu Gly Ser Arg Ala Tyr Ala
                165   170   175
Trp Arg Met Met Arg Asp Ile Asp Cys Val Gln Leu Pro Ser Arg Leu
            180   185   190
Gly Gly Val Pro Val Ile Thr Pro Ala Arg Val Arg Gly Phe His Ala
        195   200   205
Ala Gly Arg Gln Val His Ala Trp Thr Val Asp Glu Pro Asp Val Met
    210   215   220
His Thr Leu Leu Asp Met Asp Val Asp Gly Ile Ile Thr Asp Arg Ala
225   230   235   240
Asp Leu Leu Arg Asp Val Leu Ile Ala Arg Gly Glu Trp Asp Gly Ala
                245   250   255

<210> 15
<211> 274
<212> PRT
<213> Mycobacterium tuberculosis

<400> 15
Met Thr Trp Ala Asp Glu Val Leu Ala Gly His Pro Phe Val Val Ala
 1   5   10   15
His Arg Gly Ala Ser Ala Ala Arg Pro Glu His Thr Leu Ala Ala Tyr
            20   25   30
Asp Leu Ala Leu Lys Glu Gly Ala Asp Gly Val Glu Cys Asp Val Arg
        35   40   45
Leu Thr Arg Asp Gly His Leu Val Cys Val His Asp Arg Arg Leu Asp
    50   55   60
Arg Thr Ser Thr Gly Ala Gly Leu Val Ser Thr Met Thr Leu Ala Gln
65   70   75   80
Leu Arg Glu Leu Glu Tyr Gly Ala Trp His Asp Ser Trp Arg Pro Asp
                85   90   95
Gly Ser His Gly Asp Thr Ser Leu Leu Thr Leu Asp Ala Leu Val Ser
            100   105   110
Leu Val Leu Asp Trp His Arg Pro Val Lys Ile Phe Val Glu Thr Lys
        115   120   125
His Pro Val Arg Tyr Gly Ser Leu Val Glu Asn Lys Leu Leu Ala Leu
    130   135   140
Leu His Arg Phe Gly Ile Ala Ala Pro Ala Ser Ala Asp Arg Ser Arg
145   150   155   160
Ala Val Val Met Ser Phe Ser Ala Ala Ala Val Trp Arg Ile Arg Arg
                165   170   175
Ala Ala Pro Leu Leu Pro Thr Val Leu Leu Gly Lys Thr Pro Arg Tyr
            180   185   190

```
Leu Thr Ser Ser Ala Ala Thr Ala Val Gly Ala Thr Ala Val Gly Pro
        195                 200                 205
Ser Leu Pro Ala Leu Lys Glu Tyr Pro Gln Leu Val Asp Arg Ser Ala
    210                 215                 220
Ala Gln Gly Arg Ala Val Tyr Cys Trp Asn Val Asp Glu Tyr Glu Asp
225                 230                 235                 240
Ile Asp Phe Cys Arg Glu Val Gly Val Ala Trp Ile Gly Thr His His
                245                 250                 255
Pro Gly Arg Thr Lys Ala Trp Leu Glu Asp Gly Arg Ala Asn Gly Thr
            260                 265                 270
Thr Arg
```

<210> 16
<211> 241
<212> PRT
<213> Mycoplasma pneumoniae

<400> 16

```
Met Leu Lys Arg Gln Leu Leu Leu Ala His Arg Gly Tyr Ser Asp Ile
 1               5                  10                  15
Ala Pro Glu Asn Thr Gln Leu Ala Phe Glu Leu Ala Phe Gln Tyr Arg
            20                  25                  30
Phe Asp Gly Val Glu Leu Asp Val His Leu Thr Lys Asp Gly Glu Leu
        35                  40                  45
Val Ile Ile His Asp Glu Thr Thr Thr Arg Thr Ala Leu Val Asp Lys
    50                  55                  60
Thr Ile Glu Leu Glu Thr Leu Ala Ser Leu Lys Gln Asp Asp His Ser
65                  70                  75                  80
Ala Phe Phe Lys Phe Lys Thr Gln Pro Gln Pro Ile Met Thr Leu Lys
                85                  90                  95
Glu Phe Phe Asp Gln Tyr Leu Asp Lys Phe Gln Leu Ile Asn Val Glu
            100                 105                 110
Ile Lys Thr Asp Gln Lys Glu Tyr Pro Gly Ile Glu Ala Lys Ile Asp
        115                 120                 125
Ala Leu Ala Gln Gln Tyr Gly Lys Lys Val Ile Glu Lys Val Val Phe
    130                 135                 140
Ser Ser Phe Asn Phe Ala Ser Leu Gln Arg Leu Tyr Asp Ile Asn Pro
145                 150                 155                 160
Asn Tyr Gln Ile Ala Phe Leu Phe Trp Thr Lys Lys Gln Phe Gln Ala
                165                 170                 175
Val Asp Ala Leu Lys Ile Lys Gln Val Cys Gln Tyr Leu His Pro Trp
            180                 185                 190
Thr Asn Ile Tyr Glu Lys Phe Pro Asp Met Val Leu Ser Leu Gln Leu
        195                 200                 205
Pro Leu Gly Leu Trp Thr Leu Asn Ser Glu Val Lys Phe His Gln Phe
    210                 215                 220
Arg Gln Asp Arg Met Val Tyr Ala Gln Ile Ala Asn Lys Lys Phe Glu
225                 230                 235                 240
Val
```